



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/585,654

07/07/2006

Yusuke Konagai

YAMA:135

5543

37013 7590 09/04/2008  
ROSSI, KIMMS & McDOWELL LLP.  
20609 Gordon Park Square, Suite 150  
Ashburn, VA 20147

EXAMINER

FAULK, DEVONA E

ART UNIT

PAPER NUMBER

2615

MAIL DATE

DELIVERY MODE

09/04/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/585,654	<b>Applicant(s)</b> KONAGAI ET AL.	
	<b>Examiner</b> DEVONA E. FAULK	<b>Art Unit</b> 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 October 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed subject matter of claims 3,5 and 8 (last limitation of claim 8) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claim 3 recites “..loudspeaker blocks are overlap with respect the same speaker element..”. Claim 8 recites “a high range signal thereof is inputted to a loudspeaker block constructed by a partial width of loudspeaker rows in two stages or more, and a low range signal thereof is inputted to a loudspeaker block constructed by the entire width of a single-stage loudspeaker row”. The specification lacks antecedent basis for this claim language.

***Claim Objections***

2. Claims 3 and 8 are objected to because of the following informalities: Claim 3 recites “..loudspeaker blocks are overlap with respect the same speaker element..”. Claim 8 recites “a high range signal thereof is inputted to a loudspeaker block constructed by a partial width of loudspeaker rows in two stages or more, and a low range signal thereof is inputted to a loudspeaker block constructed by the entire width of a single-stage loudspeaker row”. The specification discloses (Figure 9A) that the high range and low range signal are both constructed by a partial and equal width of the loudspeaker block. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Furuta et al. (JP 06-225379).

Regarding claim 1, Furuta discloses a loudspeaker apparatus (Figures 1,5-8) comprising: a loudspeaker array constructed by arranging a plurality of loudspeaker elements (loudspeaker arrays 2,3; Figures 1,5-8; ¶ 0011 under DETAILED DESCRIPTION section) and an audio signal processing unit that outputs inputted audio signals of a plurality of systems to a plurality of loudspeaker blocks (filters 71-78 of Figure 5, 71a-78a of Figure 6, 81-88 of Figure 7; ¶ 0018- ¶ 0021 under DETAILED DESCRIPTION section)) respectively, the plurality of loudspeaker blocks being formed by grouping part of the plurality of loudspeaker elements (Figure 1, 5-8; ¶ 0011 under DETAILED DESCRIPTION section).

Regarding claim 2, Furuta discloses wherein the loudspeaker array is constructed such that the plurality of loudspeaker elements are arranged in a form of a horizontal row to form each of the loudspeaker blocks, and the loudspeaker blocks are stacked in a plurality of stages (Figure 1).

Art Unit: 2615

Regarding claim 3, Furuta discloses wherein the loudspeaker blocks include a loudspeaker block for a high range and a loudspeaker block for a low range, and a width of the loudspeaker block for the high range signal is smaller than a width of the loudspeaker block for the low range signal. wherein two or more loudspeaker blocks are overlap with respect to a same loudspeaker element (Figure 6, the high frequency signal is allocated to one speaker in array 3 and the low frequency signal is allocated to two speakers in array 2; ¶ 0019 under DETAILED DESCRIPTION section).

Regarding claim 4, Furuta discloses 4, wherein the loudspeaker blocks are respectively constructed as separate units, and the loudspeaker array is constructed by stacking the units (Figures 1,5-8).

Regarding claim 5, Furuta discloses a high pass filter allocated to one speaker and a low pass filter allocated to one speaker (Figure 6).

Regarding claim 6, Furuta discloses wherein the loudspeaker array is constructed as loudspeaker rows each formed by arranging the plurality of loudspeaker elements in the form of a horizontal row are stacked in a plurality of stages (Figure 1, 5-8).

Regarding claim 7, Furuta discloses wherein the loudspeaker block is constructed so that the output sound pressure of the respective loudspeaker rows becomes substantially uniform (Figures 1,508).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Furuta et al. (JP 06-225379).

Regarding claim 8, Furuta discloses a loudspeaker apparatus (Figures 1,5-8) comprising: a loudspeaker array in which loudspeaker rows each formed by arranging a plurality of loudspeaker elements in a form of a horizontal row are stacked in a plurality of stages (loudspeaker arrays ,2,3, Figures 1,5-8; ¶ 0011 under DETAILED DESCRIPTION section) , and which is disposed such that the loudspeaker elements of the loudspeaker rows stacked vertically are arranged in a zigzag form (Figure 1); and an audio signal processing unit in which an audio signal is divided into a plurality of frequency bands (filters 71-78 of Figure 5, 71a-78a of Figure 6, 81-88 of Figure 7; ¶ 0018- ¶ 0021 under DETAILED DESCRIPTION section) , a high range signal thereof is inputted to a loudspeaker block constructed by a partial width of loudspeaker rows in one stage and a low frequency inputted to a loudspeaker block constructed by a partial width of the loudspeaker rows (Figure 6, ¶ 0019 under DETAILED DESCRIPTION section). Furuta fails to disclose that the high range signal is inputted in two stages or more and that the low frequency signal is inputted to a loudspeaker block constructed by the entire width of a single-stage loudspeaker row

Art Unit: 2615

Furuta in Figures 5,7 and 8 show other examples of how the speakers can be allocated. Furuta fails to explicitly disclose wherein the loudspeaker blocks include a loudspeaker block for a high range and a loudspeaker block for a low range, and a width of the loudspeaker block for the high range signal is smaller than a width of the loudspeaker block for the low range signal.

As noted by prior art Furuta how the speakers are allocated is a matter of design choice according to what kind of sound environment the designer wants to create. It would have been obvious to try to modify Furuta so that the block for the high range signal is inputted in two stages or more and that the low frequency signal is inputted to a loudspeaker block constructed by the entire width of a single-stage loudspeaker row so that the desired listening environment can be created. .

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEVONA E. FAULK whose telephone number is (571)272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2615

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devona E. Faulk/  
Examiner, Art Unit 2615